

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant (s): **Bharat I. Chaudhary, et al.**

Attorney Docket No.: 44417A

Filed: Concurrently Herewith

For: **THERMOPLASTIC COMPOSITIONS FOR DURABLE GOODS APPLICATIONS**

"Express Mail" mailing label number EL414239370US Date of Deposit November 2, 2001
--

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Applicants request entry of the following amendments prior to the examination of the above-identified application.

**In the Specification**

Please replace the phrase "Not Applicable" on page 1, line 5 with the following paragraph:

--This application is a division of US Patent Application Serial no. 09/374,100, filed August 12th, 1999.--

**In the Claims**

Please cancel claims 9-12, 14 -23, 32 and 34. Please amend Claims 1 and 24 as follows:

1. (AMENDED) A rotational molding composition comprising;
  - A) a majority component of one or more homopolymers or interpolymers;
  - B) one or more impact additives comprising one or more ethylene-vinyl acetate copolymers (EVA);

wherein the impact strength of the composition at a fixed temperature is increased by at least 0.1 ft-lb/in from that of the majority component in the absence of the impact additive.

24. (AMENDED) An injection molding composition; comprising

- A) a majority component of one or more homopolymers or interpolymers; and
- B) one or more impact additives comprising one or more ethylene-vinyl acetate copolymers (EVA);

wherein the impact strength of the composition at a fixed temperature is increased by at least 0.1 ft-lb/in from that of the majority component in the absence of the impact additive.

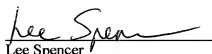
#### REMARKS

The subject application is a divisional of parent application serial no. 09/496,973, filed 2/12/2000, now allowed (Notice of Allowability, mailed on 08/28/01, Paper No. 9.)

Applicants respectfully request entry of the preliminary amendment into the file of the present application prior to the calculation of the filing fees.

A marked-up version of the changes made to the claims by the current preliminary amendment is attached. The attached pages are captioned "Version with Markings to Show Changes Made". Basis for the amended claims are original claims 1 and 24.

Respectfully submitted,



Lee Spencer  
Registration No. 43,353  
Phone: 979-238-2886

Date: 11/02/01  
2301 N. Brazosport Blvd., B-1211  
Freeport, Texas 77541

LS/mam

Marked Up Version Showing Changes Made

1. (AMENDED) A rotational molding composition comprising;

C) a majority component of one or more homopolymers or interpolymers;

B) one or more impact additives ~~selected from the group consisting of~~ comprising  
one or more ethylene-vinyl acetate copolymers (EVA); ~~heterogeneous or homogeneous~~  
~~interpolymers with polymer units derived from ethylene and/or one or more C<sub>2</sub>-C<sub>20</sub>  $\alpha$ -olefins~~  
~~having a density of 0.915 g/cm<sup>3</sup> or less; and one or more substantially random interpolymers~~  
~~comprising;~~

~~(1) polymer units derived from~~

~~(i) at least one vinyl or vinylidene aromatic monomer, or~~

~~(ii) at least one hindered aliphatic or cycloaliphatic vinyl or vinylidene  
monomer; or~~

~~(iii) a combination of at least one vinyl or vinylidene aromatic monomer  
and at least one hindered aliphatic or cycloaliphatic vinyl or  
vinylidene monomer; and~~

~~(2) polymer units derived from~~

~~(i) ethylene, or~~

~~(ii) C<sub>2-20</sub>  $\alpha$ -olefin;~~

~~and mixtures thereof;~~

wherein the impact strength of the composition at a fixed temperature is increased by at  
least 0.1 ft-lb/in from that of the majority component in the absence of the impact  
additive.

9. ~~The composition of Claim 1 wherein the impact additive, Component B, comprises~~  
~~substantially random interpolmer comprising from about 1 to about 30 mole percent vinyl~~  
~~aromatic monomer.~~

10. The composition of Claim 1 wherein the impact additive, comprises heterogeneous or homogeneous copolymers of ethylene and 1-propene, ethylene and 1-butene, ethylene and 1-pentene, ethylene and 1-hexene and ethylene and 1-octene of 0.850-0.915 g/cm<sup>3</sup> density,

11. The composition of Claim 9 wherein the vinyl aromatic monomer is styrene,

12. The composition of Claim 1 which comprises from about 85 to about 95 percent by weight of linear low density polyethylene as Component A, and from about 5 to about 15 percent by weight of ethylene-styrene interpolymers having from about 5 to about 20 mole percent styrene as Component B; wherein the composition is in the form of a powder which is smaller than or equal to 35 mesh,

14. The composition of Claim 1 which comprises from about 85 to about 95 percent by weight of linear low density polyethylene as Component A, and from about 5 to about 15 percent by weight of heterogeneous or homogeneous copolymers of ethylene and 1-propene, ethylene and 1-butene, ethylene and 1-pentene, ethylene and 1-hexene and ethylene and 1-octene of 0.850-0.915 g/cm<sup>3</sup> density as Component B, wherein the composition is in the form of a powder which has a particle size smaller than or equal to 35 mesh,

15. A rotational molding composition comprising;

C) 94 percent by weight or more of one or more thermoplastic polymers; and

D) 6 percent by weight or less of one or more processing additives; wherein the sintering time of said composition will be decreased by at least 5 percent relative to the sintering time of Component A in the absence of Component B.

16. The composition of Claim 15 wherein the one or more thermoplastic polymers are selected from the group consisting of substantially random ethylene-styrene interpolymers, ethylene and/or C<sub>2</sub>-C<sub>22</sub> α-olefin homopolymers or interpolymers, nylon, polyethylene terephthalate, polycarbonate, acrylic polymer, polystyrene, and mixtures thereof.

17. The composition of Claim 15 wherein the amount of processing additive, Component B, is from about 0.01 to about 6 weight percent of the composition.

18. The composition of Claim 15 wherein the processing additive, Component B, is a solid or liquid at from about 20 to about 300°C,

19. The composition of Claim 15 wherein the processing additive, Component B, has a molecular weight below about 10,000.

20. The composition of Claim 15 wherein the processing additive, Component B, is selected from the group consisting of mineral oil, naphthenic oil, paraffinic oil, glycerol monostearate, pentaerythritol monooleate, adipic acid, sebacic acid, styrene-alpha-methyl-styrene, calcium stearate and mixtures thereof.

21. The composition of Claim 15 wherein the processing additive, Component B, is mineral oil.

22. The composition of Claim 20 which comprises from about 94 to about 99.9 weight percent of linear low density polyethylene as Component A, and from about 0.1 to about 6 weight percent of mineral oil as Component B; wherein said mineral oil is dispersed within the polyethylene and the composition is in the form of a powder which has a particle size smaller than or equal to 35 mesh.

23. The composition of Claim 20 which comprises from about 99 to about 99.99 weight percent of linear low density polyethylene as Component A, and from about 0.01 to about 1 weight percent of calcium stearate as Component B, wherein said calcium stearate is dispersed substantially homogeneously within the polyethylene and the composition is in the form of a powder which has a particle size smaller than or equal to 35 mesh.

24. (AMENDED) An injection molding composition; comprising

A) a majority component of one or more homopolymers or interpolymers; and

B) one or more impact additives selected from the group consisting of comprising ethylene-vinyl acetate copolymers (EVA); heterogeneous or homogeneous interpolymers with polymer units derived from ethylene and/or one or more  $C_3$ - $C_{20}$   $\alpha$ -olefins having a density of 0.915 g/cm<sup>3</sup> or less; and mixtures thereof;

wherein the impact strength of the composition at a fixed temperature is increased by at least 0.1 ft-lb/in from that of the majority component in the absence of the impact additive.

32. The composition of Claim 24 wherein the impact additive comprises heterogeneous or homogeneous copolymers of ethylene and 1-propene, ethylene and 1-butene, ethylene and 1-pentene, ethylene and 1-hexene and ethylene and 1-octene of 0.850-0.915 g/cm<sup>3</sup> density.

34. The composition of Claim 24 which comprises from about 85 to about 95 percent by weight of linear low density polyethylene as Component A, and from about 5 to about 15 percent by weight of heterogeneous or homogeneous copolymers of ethylene and 1-propene, ethylene and 1-butene, ethylene and 1-pentene, ethylene and 1-hexene and ethylene and 1-octene of 0.850-0.915 g/cm<sup>3</sup> density as Component B, wherein the composition is in the form of a powder which has a particle size smaller than or equal to 35 mesh.